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EXAMINER	
REPKO, JASON MICHAEL	
ART UNIT	**PAPER NUMBER**
2628	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)
	10/826,973	NILES ET AL.
	Examiner	Art Unit
	Jason M. Repko	2628

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 January 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,7-20,71,74-81 and 85-93* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,7-20,71,74-81 and 85-93* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 October 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 4, 7, 9, 10, 12-18, 20, 71, 74, 75, 77, 78, 85, 86, 88 and 90 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,714,201 to Grinstein et al.

4. With regard to claim 1, Grinstein et al discloses "in a computer-implemented animation system, a method for animating an object, the method comprising:

a. receiving a first input, the first input specifying a first parameter behavior indicating how to change a value of a first parameter over time (*Figures 29-32 show dialog boxes for accepting user input and a plurality of parameters for the sway and wind controllers*), wherein the first parameter applies to one element of a group consisting of a motion behavior applied to the object (*lines 13-14 of column 29: "A Behavior is an action that changes a Motion's parameters."; lines 34-49 of column 37 (emphasis added): "6.2.8.3 Motion Derivatives...Motion [Derivative] shows how the 0-*

2^{nd} order motion derivatives can be used as parameters to create complex, interrelated motions... // first, define a signal that oscilates as a funct(time) from -1 to 1...// now we can create a derived motion whose position is controlled by the // velocity of the Shake motion. Motion derivedShake; derivedShake.positon(velocity(Shake)... "), a filter applied to the object, and a generator applied to the object;

b. animating the object by changing the value of the first parameter over time according to the specified parameter value (*lines 46-53 of column 75: "...generating an animated view of the given model in which the given model is rendered at each of a succession of time values with individual ones of the model's nodes being shown in each successive rendering as having a position and orientation determined as a function of the value for the rendering's corresponding time value of the position and orientation values defined by the node's associated motion..."; section 6.2.6 describes Behaviors which changing the value of a first parameter over time*); and

c. outputting the animated object (*lines 17-20 of column 53: "Since Mojo is a real-time motion editor, the model of the running man is shown moving according to a set of motions that have been applied to the individual nodes of its hierarchical model."*).

5. With regard to claim 4, Grinstein et al discloses "receiving a second input, the second input specifying a second parameter behavior (*lines 4-7 of column 57: "In this case an add motion dialog box 566 will be displayed which contains a scrollable list 568 of previously defined motions. The user can select one of these motions and then click the apply button 570 which will then add the selected motion to the currently selected node."*), the second parameter behavior indicating how to change a value of a second parameter over time, and wherein

animating the object further comprises changing the value of the second parameter according to the second specified parameter behavior (*lines 34-49 of column 37 as cited in claim 1*; *see section 6.2.8.4; lines 48-50 of column 45 (emphasis added): " Motions that comprise <u>more than one primitive motion</u> are called composite motions."; see also section 6.4.2.3 in column 46*). Table 24 in column 24 shows a table of motions. One of ordinary skill in the art would recognize that the system disclosed by Grinstein et al is capable of applying a second parameter behavior to animate the object as shown in section 6.2.8.4, section 6.4, the "add motion" option described in lines 4-7 of column 57, and the "Mojo editor" in section 7.

6. With regard to claim 7, Grinstein et al discloses "the motion behavior comprises one from a group consisting of: wherein the first behavior comprises one from a group consisting of a Snap Alignment to Motion behavior, Align to Motion behavior (*line 8 of column 47: "roll move and turn relative to position"*), a Drag behavior (*lines 17-22 of column 36: "The parameters, gain and bias, affect the normal and tangential components of a boundary interaction. These parameters can be adjusted to simulate effects of gain or loss of momentum, for example due to elasticity and friction. To set these parameters, they are chained off the end of the boundary Behavior..."*) and a Spring behavior (*lines 34-35 of column 43: "6.3.3.6 Harmonic (Spring) Motion...A particle oscillates on the x-axis between [-1 1]..."*).

7. With regard to claim 9, Grinstein et al discloses "the first parameter behavior indicates that the value of the first parameter should be averaged over time" (*lines 53-56 of column 28 (emphasis added): "Sometimes a complex motion is a blend of two motions acting independently. In contrast to hierarchy, blending is accomplished by weighted <u>averaging</u> of degree-of-freedom parameters, not by composing transformations."*).

8. With regard to claim 10, Grinstein et al discloses "the first parameter behavior indicates that the value of the first parameter should be changed using a user specified custom change" (*lines 12-20 of column 58: "The show parameter window also includes a frequency slider 558C, which defines the speed at which the swing motion being edited will be performed, a phase angle slider 558D that shifts the phase of the swing motion. Each of the sliders 558A through 558D includes a corresponding edit box 558AA through 558DD, which enables a user to see a numerical representation of the current value entered by a slider, or which enables the user to enter an exact desired numerical value."*).

9. With regard to the following rejections of claims 12-18, it should be noted one of ordinary skill in the art would recognize that other motions could be substituted for the "shake" motion and a plurality of behaviors could be substituted to modify the parameters of that motion used in the illustrative example used in section 6.2.8.3 from the statements in section 6.1.3 (The Run Time Engine):

> *The motion package 132, includes the motion class 134, sub-classes of the motion class called primitive motion classes 136, and the trajectory class 138. The motion class is the class which is used to defined the motion of an object. Each object for which the OpenMotion System is to compute a motion is given an instance derived directly from the motion class or from a subclass of this class.*

10. With regard to claim 12, Grinstein et al discloses "the first parameter behavior indicates that the value of the first parameter should oscillate over time" (*lines 41-42 of column 37 (emphasis added): "...// first, define a signal that <u>oscilates as a funct(time)</u> from -1 to 1*

*ScalarVar signal = sin(simTime( )) // now, using this signal, define a "Shake" motion that moves back and // fourth along the X axis Motion shake; shake.position(Vector::Xaxis * signal);..."*).

11. With regard to claim 13, Grinstein et al discloses "the first parameter behavior indicates the value should ramp over time" (*lines 58-59 of column 25: "One creates a Motion by declaring a variable using the Motion type. Motion myMotion;"; line 9 of column 26: "...acceleration a Vector dv/dt, time derivative of velocity orientation..."; lines 22-25 of column 51: "Specialized settings have Ramp and Ease controls. Examples of the Specialized tab are shown in FIGS. 12, 15, 18, and 22. The Ramp sliders control the acceleration and deceleration in and out of an entire motion."*).

12. With regard to claim 14, Grinstein et al discloses "the first parameter behavior indicates that the value of the first parameter should be randomized" (*lines 38-41 of column 38: "...the velocity direction will be // varying randomly. BehaviorVar wander=(velocityControl(randomDir(simTime( )))..."*).

13. With regard to claim 15, Grinstein et al discloses "the first parameter behavior indicates that the value of the first parameter should change over time according to a specified rate" (*lines 59-61 of column 37: "// the StraightMotn is constructed so that it moves in the +Z direction at a // constant speed of 10 units per second. StraightMotn.velocity(0, 0, 1);"*).

14. With regard to claim 16, Grinstein et al discloses "the first parameter behavior indicates that changes to the value of the first parameter should be executed in reverse order" (*lines 62-65 of column 58: "In other embodiments of the invention different ranges of simulated clock speed change could be allowed, including negative speeds, which would make motions run backwards."*).

15. With regard to claim 17, Grinstein et al discloses "the first parameter behavior indicates that the value of the first parameter should not change" (*lines 57-59 of column 29: "Sometimes one needs to set a motion parameter to a fixed value. This is done by a sub-class of behaviors called a constant controller..."; section 6.2.6.2*).

16. With regard to claim 18, Grinstein et al discloses "the first parameter behavior indicates that the value of the first parameter should wriggle over time" (*lines 30-45 of column 45: "Shake translate back and forth 2.1 jiggle multidirectional soft random shake...2.3 shimmy random shake in one direction...45 totter random rotations on the horizontal 4.6 wobble random rotations on vertical"; see also line 20 of column 46*).

17. With regard to claim 20, Grinstein et al discloses "further comprising receiving a second input specifying a value for the first parameter (*Figure 42 shows a dialog box 558 for receiving parameter values for the "Swing Motion"*), and wherein animating the object comprises changing a value of parameter of the object according to the first specified parameter behavior and the specified value for the first parameter" (*lines 6-10 of column 56: "This will enable a user to vary the parameters defining the selected motion and to interactively see their effects upon the selected motion, as such changes are made, in the scene window 503."*).

18. With regard to claim 71, Grinstein et al discloses "a method for animating an object using a behavior, comprising:

d. outputting an original animation for the object according to a first parameter behavior (*lines 17-20 of column 53: "Since Mojo is a real-time motion editor, the model of the running man is shown moving according to a set of motions that have been applied to the individual nodes of its hierarchical model."*), the first parameter behavior

indicating how to change a value of a first parameter over time, wherein the first parameter applies to a motion behavior applied to the object (*lines 13-14 of column 29: "A Behavior is an action that changes a Motion's parameters."; lines 34-49 of column 37 (emphasis added): "6.2.8.3 Motion Derivatives... Motion [Derivative] shows how the 0-2nd order motion derivatives can be used as parameters to create complex, interrelated motions... // first, define a signal that <u>oscilates as a funct(time) from -1 to 1</u>... // now we can create a derived motion whose <u>position is controlled by the // velocity</u> of the Shake motion. Motion derivedShake; derivedShake.positon(velocity(Shake)... "*);

e. concurrently with outputting the original animation (*lines 7-11 of column 58: "As the user changes any of the controls shown in the show-parameters window 558, a corresponding interactive change is made to the animation of its associated motion in the scene-view window 503."*), accepting user input that specifies a second parameter behavior *(see FIG. 42 shows a dialog box 558 to accept user input concurrently with an animation 503; lines 1-5 of column 63: "Returning to FIG. 56A, if a user selects to change a parameter of a motion instance, such as by use of a show-parameters window 558 of the type shown in FIG. 42, steps 656 and 658 call the API with the corresponding change to the motion instance."*), the second parameter behavior indicating how to change a value of a second parameter over time, wherein the second parameter applies to the same motion behavior applied to the object (*Figures 29-32 show dialog boxes for accepting user input and a plurality of parameters for the sway and wind controllers*); and

f. outputting an updated animation for the object according to the second parameter behavior (*lines 5-11 of column 63 (emphasis added): "After such call is made with such a change to the parameter of a motion, the next time a call is made to om::update( ) the position, orientation, and scaling value of the motion will be updated, taking such a change into account. As a result, the system enables a user to see the effect of changes in the definition of the motion upon the operation of that motion* <u>*as such changes are made.*</u>*"*).

19. With regard to claims 74 and 75, Grinstein et al discloses "outputting the updated animation is performed without interrupting the animation for the object" and "the updated animation reflects the application of the second parameter behavior in real-time" (*lines 7-11 of column 58 (emphasis added): "As the user changes any of the controls shown in the show-parameters window 558, a* <u>*corresponding interactive change*</u> *is made to the animation of its associated motion in the scene-view window 503."; lines 5-11 of column 63 (emphasis added): "... As a result, the system enables a user to see the effect of changes in the definition of the motion upon the operation of that motion* <u>*as such changes are made.*</u>*"*).

20. With regard to claim 77, Grinstein et al discloses "outputting the original animation and outputting the updated animation each comprise rendering each of a plurality of frames sequentially" (*lines 51 of column 16 through line 3 of column 17 discloses the update loop which sequentially render a plurality of frames until the loop termination condition is met*).

21. With regard to claim 78, Grinstein et al discloses "outputting the original animation and outputting the updated animation each comprise rendering each of a plurality of frames sequentially by calculating a current frame based on a previous frame" (*lines 17-20 of column 6:*

"The algorithm must synchronize and dispatch updates at each frame, as well as predicting, detecting and resolving interactions, such as collisions, that might occur between frames."; *TABLE 18 in column 32: "...Time accumulated in previous and current activations."; lines 20-25 of column 32: "For example, a state that is active for 10 seconds, then transitions to another state..."*).

22. With regard to claim 85, Grinstein et al discloses "the first parameter behavior applies to the motion behavior applied to the object" (*lines 13-14 of column 29: "A Behavior is an action that changes a Motion's parameters."*).

23. With regard to claim 86, Grinstein et al discloses "in a computer-implemented animation system, a method for animating an object, the method comprising:

g. receiving a first input, the first input specifying a first behavior (*Figures 29-32 show dialog boxes for accepting user input and a plurality of parameters for the sway and wind controllers*), the first behavior indicating how to change a value of a first parameter of an object over time (*lines 13-14 of column 29*; *lines 34-49 of column 37*);

h. animating the object by changing the value of the first parameter of the object over time according to the specific behavior (*lines 46-53 of column 75; section 6.2.6 describes Behaviors which changing the value of the first parameter over time*); and

i. outputting the animated object (*lines 17-20 of column 53*);

j. wherein the first behavior comprises one from a group consisting of a Snap Alignment to Motion behavior and an Align to Motion behavior, each of which changes a rotation of the object based on a motion path of the object (*line 8 of column 47: "roll move and turn relative to position"*).

24. With regard to claim 88, the limitations recited lines 1-6 of claim 88 are similar in scope to lines 1-6 of claim 86, which are disclosed by Grinstein et al. In addition, Grinstein et al discloses "the first behavior comprises one from a group consisting of: a Drag behavior, which changes a position of the object based on a simulated friction; and a Rotational Drag behavior, which changes a rotation of the object based on a simulated friction" (*lines 17-22 of column 36: "The parameters, gain and bias, affect the normal and tangential components of a boundary interaction. These parameters can be adjusted to simulate effects of gain or loss of momentum, for example due to elasticity and friction. To set these parameters, they are chained off the end of the boundary Behavior..."*).

25. With regard to claim 90, the limitations recited lines 1-6 of claim 90 are similar in scope to lines 1-6 of claim 86, which are disclosed by Grinstein et al. In addition, Grinstein et al discloses "the first behavior comprises a Spring behavior" (*lines 34-35 of column 43: "6.3.3.6 Harmonic (Spring) Motion...A particle oscillates on the x-axis between [-1 1]..."*).

26. **Claims 91 and 93 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,512,522 to Miller et al.**

27. With regard to claim 91, Miller et al discloses "in a computer implemented animation system, a method for animating a text object, the method comprising:

k. receiving a first input (*22 in Figure 1*), the first input specifying a first behavior, the first behavior indicating how to change a value of a first parameter of the text object over time (*lines 56-57 of column 8: "...In particular, the property values may be defined as a function of time, where time ranges in value from zero to one...A graphical user*

interface that displays the Bezier curve may permit a user to manipulate the curve to change these values.");

l. animating the object by changing the value of the first parameter of the text object over time according to the specified behavior (*lines 56-60 of column 7: "Properties are values which control the appearance and position of nodes in a scene graph. These values may be animated in a video presentation. In particular, the value of a property may be a function of time or may be a function of position of the object along a path."*); and

m. outputting the animated text object (*lines 42-46 of column 4: "By representing a character as a set of polygons which is rendered in three-dimensions, rather than a raster image, several transformations may be performed on the character in real-time to provide a displayed output to the editor illustrating how the character appears in three-dimensions."*);

n. wherein the first behavior comprises one from a group consisting of:

i. a Scroll Up behavior, which increases a vertical position of the text object; and a Scroll Down behavior, which decreases a vertical position of the text object (*Figure 17; lines 57-60 of column 15: "As shown in FIG. 17, text 1704 may be laid out perpendicular to and between two paths 1700 and 1702. The distance 1706 between the two paths may determine the size, i.e., the width, of each character of the text"*).

28. With regard to claim 93, Miller et al discloses "in a computer implemented animation system, a method for animating a text object, the method comprising:

o. receiving a first input (*22 in Figure 1*), the first input specifying a first behavior, the first behavior indicating how to change a value of a first parameter of the text object over time (*lines 56-57 of column 8: "...In particular, the property values may be defined as a function of time, where time ranges in value from zero to one...A graphical user interface that displays the Bezier curve may permit a user to manipulate the curve to change these values."*);

p. animating the object by changing the value of the first parameter of the text object over time according to the specified behavior (*lines 56-60 of column 7: "Properties are values which control the appearance and position of nodes in a scene graph. These values may be animated in a video presentation. In particular, the value of a property may be a function of time or may be a function of position of the object along a path."*); and

q. outputting the animated text object (*lines 42-46 of column 4: "By representing a character as a set of polygons which is rendered in three-dimensions, rather than a raster image, several transformations may be performed on the character in real-time to provide a displayed output to the editor illustrating how the character appears in three-dimensions."*);

r. wherein the first behavior comprises one from the group consisting of:

ii. a Sequence behavior; and a Tracking behavior, which changes a spacing between characters of the text object (*lines 3-34 of column 8 (emphasis added): " Example layout properties include the amount of <u>additional kern between objects</u>"*).

Claim Rejections - 35 USC § 103

29. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

30. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

31. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,714,201 to Grinstein et al in view of U.S. Patent Application Publication No. 2004/0039934 to Land et al.

32. With regard to claim 2, Grinstein et al discloses three-dimensional objects, but does not expressly disclose "the object comprises a two-dimensional object." Land et al discloses an object animated over time according to a parameter wherein "the object comprises a two-dimensional object" (*paragraph [0136]: " FIGS. 7A-H illustrate programming of time-based object playback behavior, whereby the appearance of an object's media data in the playback display is programmed to change automatically over time during playback. "*).

33. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate two-dimensional objects animated by changing a parameter over time as taught by Land et al in the animation system and method disclosed by Grinstein et al. The motivation for doing so would have been to expand the functionality and usefulness of the animation system. Therefore, it would have been obvious to combine Land et al with Grinstein et al to obtain the invention specified in claim 2.

34. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,714,201 to Grinstein et al in view of U.S. Patent No. 6,011,562 to Gagne et al.

35. With regard to claim 3, Grinstein et al discloses "animating the object comprises changing the value of the first parameter according to the specified parameter behavior (*lines 34-49 of column 37: as shown in claim 1*) and. While Grinstein et al discloses key frames (*table 3 in column 15: "Define paths with key frames & scripting interpolating function"*), Grinstein et al does not expressly disclose "receiving a second input, the second input specifying a parameter keyframe indicating the value for the first parameter at a first point in time." Gagne et al discloses "further comprising receiving a second input, the second input specifying a parameter keyframe indicating the value for a first parameter at a first point in time (*lines 60-64 of column 4: "For example, a position versus time F-curve can be modified such that an object moves with a linear or a non-linear speed, as desired by deleting, storing and/or repositioning keyframes and interpolation parameters with respect to the time axis in the F-curve editor."*), and wherein animating the object comprises changing the value of the first parameter according to the specified parameter behavior and further according to the specified parameter keyframe" (*lines 55-59 of column 4: "For each time-changing parameter associated with the animation, the parameter is displayed in the F-curve editor for the keyframes and is interpolated for the remaining frames to form the F-curve which the animator can manipulate to change the parameter with respect to time."*).

36. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate keyframes as taught by Gagne et al in the method and system disclosed by Grinstein et al. The motivation for doing so would have been to increase the functionality of the

animation interface by providing the animator with the ability to vary the degree of control over the animation. Therefore, it would have been obvious to combine Grinstein et al with Gagne et al to obtain the invention specified in claim 3.

37. **Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,714,201 to Grinstein et al in view of U.S. Patent No. 5,883,639 to Walton et al.**

38. With regard to claim 8, Grinstein et al shows the limitations of parent claim 1, and "the first parameter is associated with the motion behavior applied to the object, and wherein the motion behavior comprises one from a group consisting of: a Crawl Left behavior; a Crawl Right behavior; a Scroll Up behavior; a Scroll Down behavior, a Randomize behavior; a Sequence behavior; a Position behavior; a Rotation behavior; an Opacity behavior, a Scale behavior, a Tracking behavior; and a Type On behavior," wherein Grinstein et al shows a scale behavior (*TABLE 27 in column 47 shows a scale deformation "to proportionally change in size"*). Grinstein et al does not disclose the object comprising a text object. Walton et al shows an animated object comprising a text object that can have behaviors attached to it (*lines 62-67 of column 12: "Line attributes, drawing modes, shapes and* <u>*text*</u> *may also be selected in accordance with techniques known to those skilled in the art."; Fig. 4b shows behaviors*).

39. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate a text object as taught by Walton et al in the system disclosed by Grinstein et al. The motivation for doing so would have been to enhance the usability and efficiency of the method in the computer implemented animation system so the animator can be more productive, otherwise the letters would have to be created by grouping primitive shapes. Therefore, it would

have been obvious to combine Grinstein et al with Walton et al to obtain the invention specified in claim 8.

40. **Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,714,201 to Grinstein et al.**

41. With regard to claim 11, Grinstein et al discloses a negation operator (*Table 6 of column 20: "...(void) Scalar& unary negate = (const Scalar& s)..."*). In the code snippet in section 6.2.8.3, Grinstein et al discloses changing the value of a first parameter. Grinstein et al does not expressly disclose the first parameter behavior indicates that the value of the first parameter should be negated. At the time of the invention it would have been obvious to one of ordinary skill in the art to employ the negation operator as disclosed by Grinstien et al in Table 6 to the first parameter value of the motion. The motivation for doing so would have been to create an opposing, reversed or mirrored motion.

42. **Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,714,201 to Grinstein et al in view of U.S. Patent Application Publication No. 2004/0036711 to Anderson.**

43. With regard to claim 19, Grinstein et al does not expressly disclose "an image object; a text object; a particle system." Anderson discloses "the object comprises one from a group consisting of: an image object; a text object; a particle system," wherein Anderson discloses a particle system (*paragraph [0057]: "The user can place a group of dirt particles where the bunny lands. A dust tool can be activated, for example by selecting an icon having a handle attached to a hoop. The user can sweep the dust tool through the dirt particles--with each sweep, all the particles within the hoop are moved slightly in the direction of the sweep."*).

44. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate a particle system as disclosed by Anderson in the system disclosed by Grinstein et al. The motivation for doing so would have been model the physical properties smoke and explosions for example. Therefore, it would have been obvious to combine Grinstein et al with Anderson to obtain the invention specified in claim 19.

45. **Claims 76 and 79 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,714,201 to Grinstein et al in view of U.S. Patent No. 6,266,053 to French et al.**

46. With regard to claims 76 and 79, Grinstein et al discloses "outputting the original animation and outputting the updated animation" as shown in the rejection of parent claim 71; however, Grinstein et al does not disclose "caching the rendered frames" as in claim 76, or "periodically caching a subset of the rendered frames in an interval cache" as in claim 79.

47. French et al discloses "caching the rendered frames" (*lines 45-48 of column 14: "The cache is opened in append mode, then each frame is displayed and cached in sequence, finally the cache is closed and the sequence can be replayed at full speed."*) as in claim 76, and "periodically caching a subset of the rendered frames in an interval cache" (*lines 60-62 of column 13: "There may be frame caches for a particular instant, or extended cached clips, which have a finite duration."*) as in claim 79.

48. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate a cache for frames as taught by French et al in the system disclosed by Grinstein et al. The motivation for doing so would have been to accelerate playback of the frames. Therefore, it would have been obvious to combine Grinstein et al with French et al to obtain the invention specified in claims 76 and 79.

49. **Claims 80 and 81 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,714,201 to Grinstein et al in view of U.S. Patent Application Publication No. 2001/0030647 to Sowizral et al.**

50. With regard to claim 80, Grinstein et al discloses the limitations of parent claim 71; however, Grinstein et al does not disclose multi-threaded rendering. Sowizral discloses "outputting the original animation and outputting the updated animation each comprise evaluating, by a first thread, a first subset of frames, and evaluating, by a second thread, a second subset of frames" (*paragraph [0015]: "The render bin may have one or more render threads associated with it, thereby enabling parallel rendering utilizing multiple processors."; paragraph [0014]: "Each structure may be an object that manages selected data from the scene graph, and the plurality of threads may be executable to render one or more frames corresponding to the scene graph."*).

51. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate multiple threads, as taught by Sowizral et al, in the system disclosed by Grinstein et al for evaluating subsets of frames. The motivation for doing so would have been to improve performance. Therefore, it would have been obvious to combine Grinstein et al with Sowizral et al to obtain the invention specified in claim 80.

52. With regard to claim 81, Sowizral does not expressly disclose "the first subset and the second subset of frames each comprise alternate frames of the animation." It would have been obvious for one of ordinary skill in the art at the time of the invention to alternate subsets of frames of the animation. The motivation for doing so would have been to improve performance, as one of ordinary skill in the art would recognize that adjacent subsets of frames would be

displayed sequentially. Therefore, it would have been obvious to further modify the combination of Sowizral et al and Grinstein et al to obtain the invention specified in claim 81.

53. Claims 87 and 89 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,714,201 to Grinstein et al in view of U.S. Patent No. 7,027,055 to Anderson.

54. With regard to claim 87, the limitations recited lines 1-6 of claim 87 are similar in scope to lines 1-6 of claim 86, which are disclosed by Grinstein et al. In addition, Grinstein et al discloses "the first behavior comprises one from a group consisting of: an Attracted To behavior, which changes a position of the object based on a determined position; an Attractor behavior, which changes a position of an object based on a determined position" (*line 58 of column 52 through line 6 of column 53: "6.4.3.6 Other Controllers... a Gravity Controller, a Viscosity Controller, and an Attraction Controller. The Gravity Controller will have the following as parameters: Strength, Direction, Location, Shape, and Focus...the Attraction Controller will have parameters: Strength, Direction, Location, Shape, and Focus."*). Grinstein et al does not expressly disclose a "a second object."

55. With regard to claim 89, the limitations recited lines 1-6 of claim 89 are similar in scope to lines 1-6 of claim 86, which are disclosed by Grinstein et al. In addition, Grinstein et al discloses "the first behavior comprises one from a group consisting of: an Orbit Around behavior, which changes a position of the object based on a position in space" (*lines 65-67 of column 43: "Orbital motion traces an ellipse, however the velocity varies along this path. We can use Newton's law of gravitation to synthesize this path from initial conditions....motion earth is [parameter Me is 5.98e24; // mass of earth parameter Ms is (329390 * Me); // mass of sun parameter GMs is (6.6732 * Ms); // gravitational constant times mass of sun parameter radius*

*is (mag earth.position); initial position is [1.49e11 0 0]; initial velocity is [0 2.96e4 0]; acceleration = // Newton's law GMs / radius 2 * neg (unit earth.position); spin = [0 0 1] (2 * pi / 86400) rad; // day-night rotation];*). Grinstein et al does not expressly disclose a "a second object."

56. With regard to claims 87 and 89, Anderson discloses "changing the position of an object based on a position of a second object" (*lines 19-30 of column 12: "Interaction between a pair of real-world objects causes the pair of shapes that represent them to be mutually attracted. The magnitude of this force is mathematically derived from the level of interaction..."*).

57. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to define a location of reference for the Attractor and Orbit behavior as disclosed by Grinstein et al to be the position of a second object or vice versa. The motivation for doing so would have been to model a solar system. Therefore, it would have been obvious to combine Grinstein with Anderson to obtain the invention specified in claim 87.

58. Claim 92 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,512,522 to Miller et al in view of Rebecca Bridges Altman, "Visual QuickStart Guide PowerPoint 2000/98," May 07, 1999, Peachpit Press, section "Applying Preset Animations," ProQuest Safari Books [online] <URL:http://proquest.safaribooksonline.com/0201354411> (herein referred to as Altman).

59. With regard to claim 92, Miller et al discloses "in a computer implemented animation system, a method for animating a text object, the method comprising:

s. receiving a first input (*22 in Figure 1*), the first input specifying a first behavior, the first behavior indicating how to change a value of a first parameter of the text object

over time (*lines 56-57 of column 8: "...In particular, the property values may be defined as a function of time, where time ranges in value from zero to one...A graphical user interface that displays the Bezier curve may permit a user to manipulate the curve to change these values."*);

t. animating the object by changing the value of the first parameter of the text object over time according to the specified behavior (*lines 56-60 of column 7: "Properties are values which control the appearance and position of nodes in a scene graph. These values may be animated in a video presentation. In particular, the value of a property may be a function of time or may be a function of position of the object along a path."*); and

u. outputting the animated text object (*lines 42-46 of column 4: "By representing a character as a set of polygons which is rendered in three-dimensions, rather than a raster image, several transformations may be performed on the character in real-time to provide a displayed output to the editor illustrating how the character appears in three-dimensions."*);

60. Miller et al does not expressly disclose "wherein the first behavior comprises one from a group consisting of: a Randomize behavior, which incrementally displays the text object character-by-character, wherein character order is random; and a Type On behavior, which incrementally displays the text object character-by-character, wherein character order is left-to-right." Altman discloses "a Type On behavior, which incrementally displays the text object character-by-character, wherein character order is left-to-right" (*first paragraph of "Section Applying Preset Animations": "while a transition effect controls... "*).

61. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the typewriter effect as disclosed by Altman in the animation system and method disclosed by Miller et al. The motivation for doing so would have been to improve the visual appeal of the presentation by increasing the number of effects that can be performed by the animation system. Therefore, it would have been obvious to combine Altman with Miller et al to obtain the invention specified in claim 92.

Response to Arguments

62. Applicant's arguments with respect to the pending claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Repko whose telephone number is 571-272-8624. The examiner can normally be reached on Monday through Friday 8:30 am -5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on 571-272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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